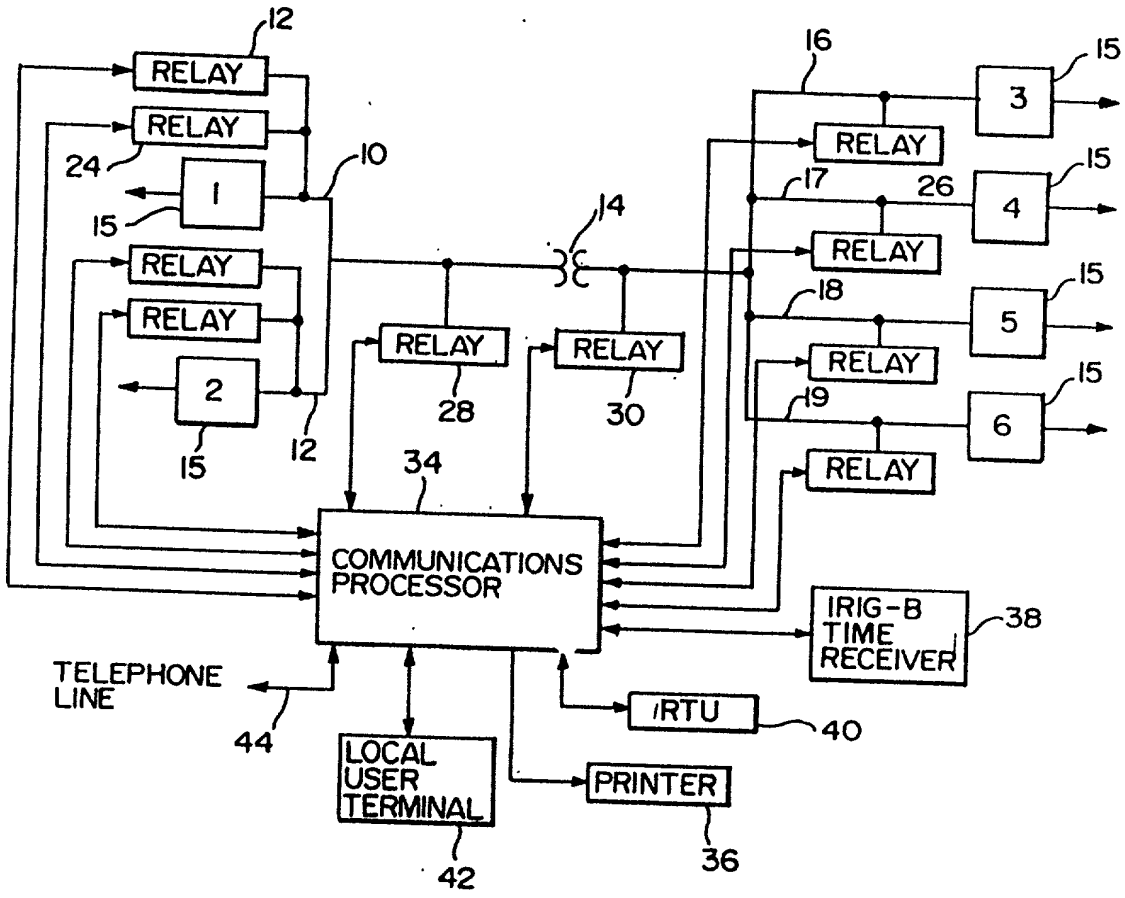
FIG. 1



LEVEL	ISR
7 (HIGHEST)	CLOCK HANDLING ISR (EVERY 1.0 Msec.)
6	FRONT PANEL SERIAL ISR
5	PORTS 13-16 ISRs
4	PORTS 9-12 ISRs
3	PORT 5-8 ISRs
2	PORT 1-4 ISRs
1 (LOWEST)	PERIODIC INTERRUPT TIMER ISR (EVERY 3.4 Msec.)

FIG. 4

FOUNDATION

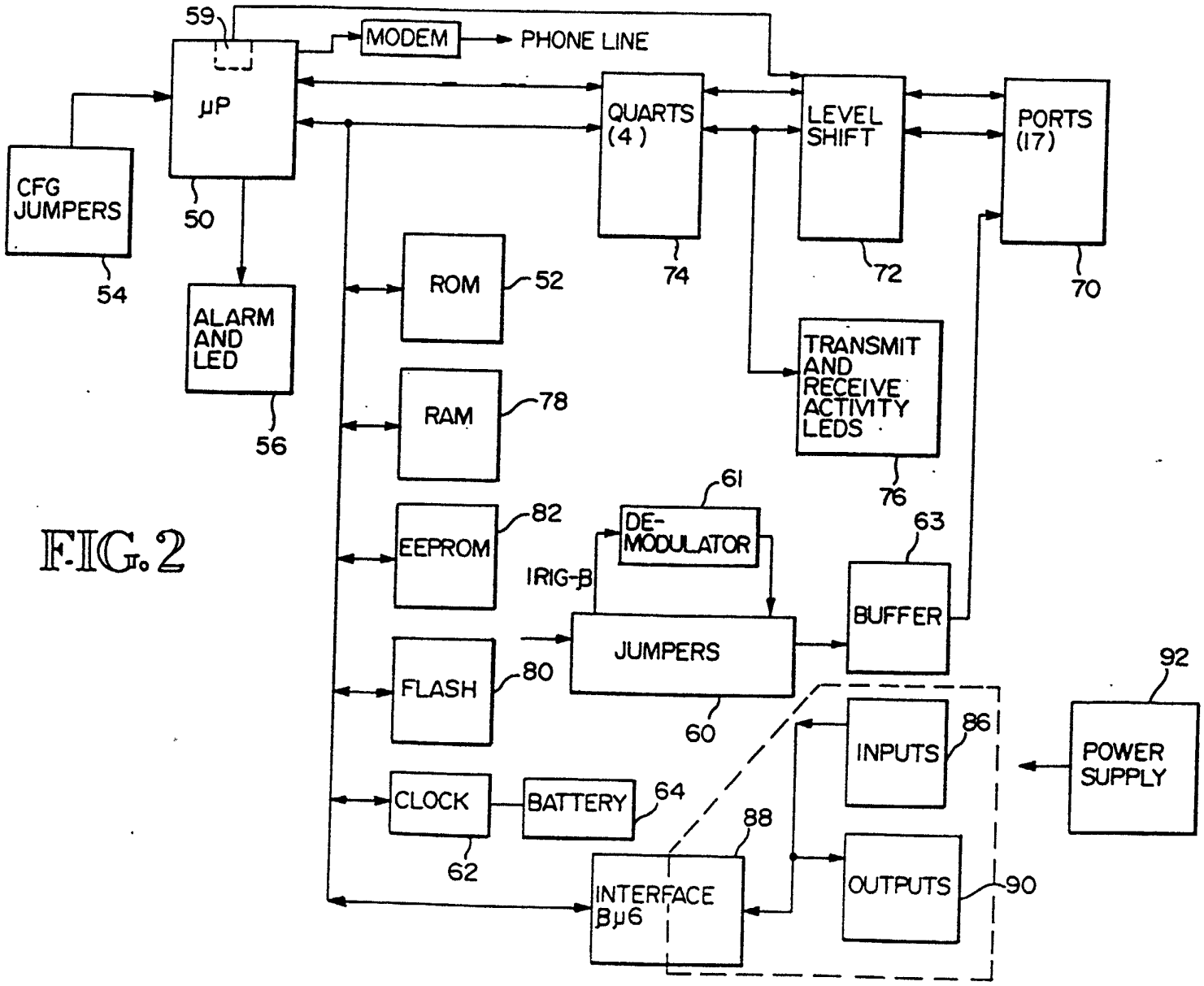
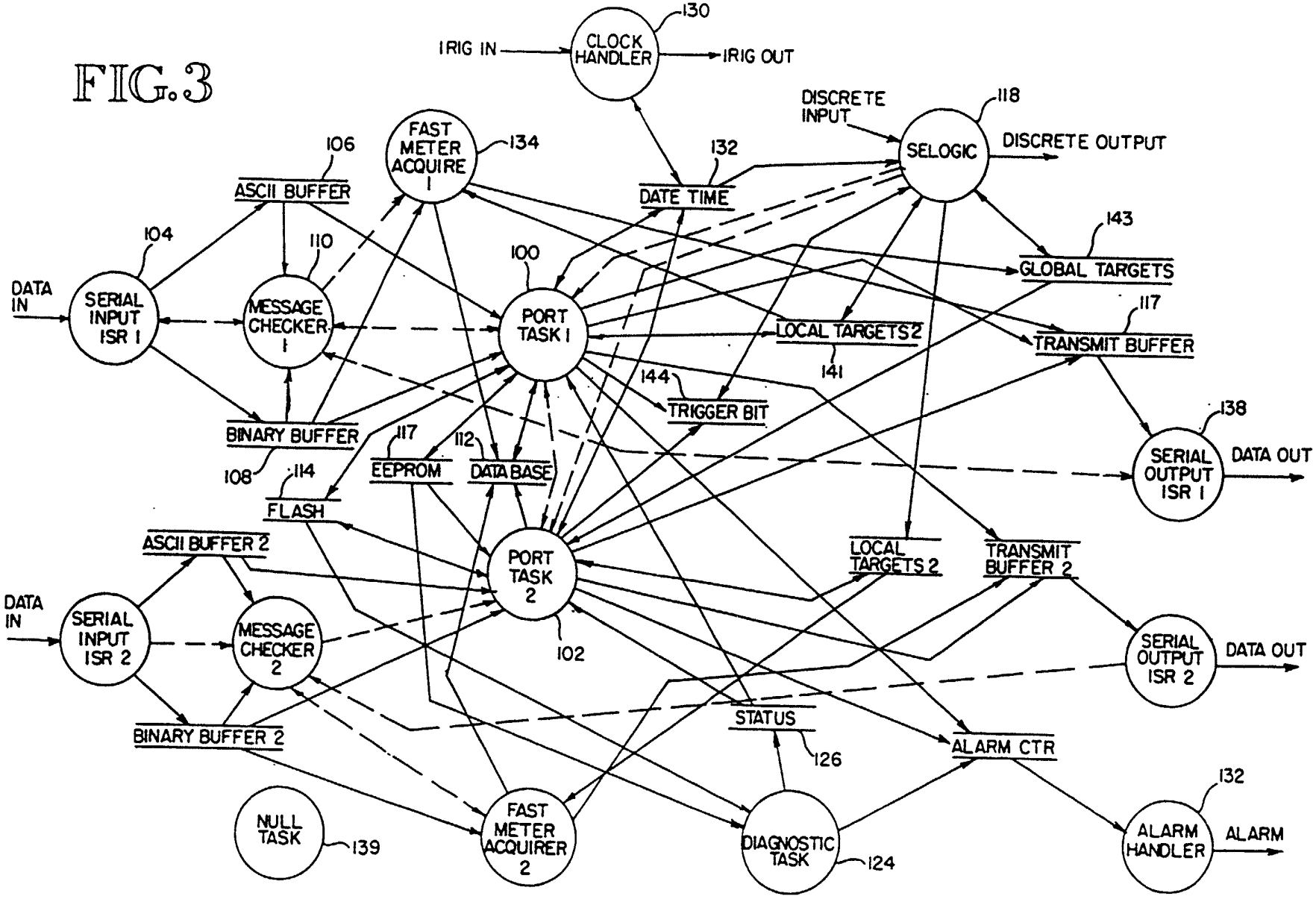


FIG. 2

FOMFCO "TFCOTBBO

FIG. 3



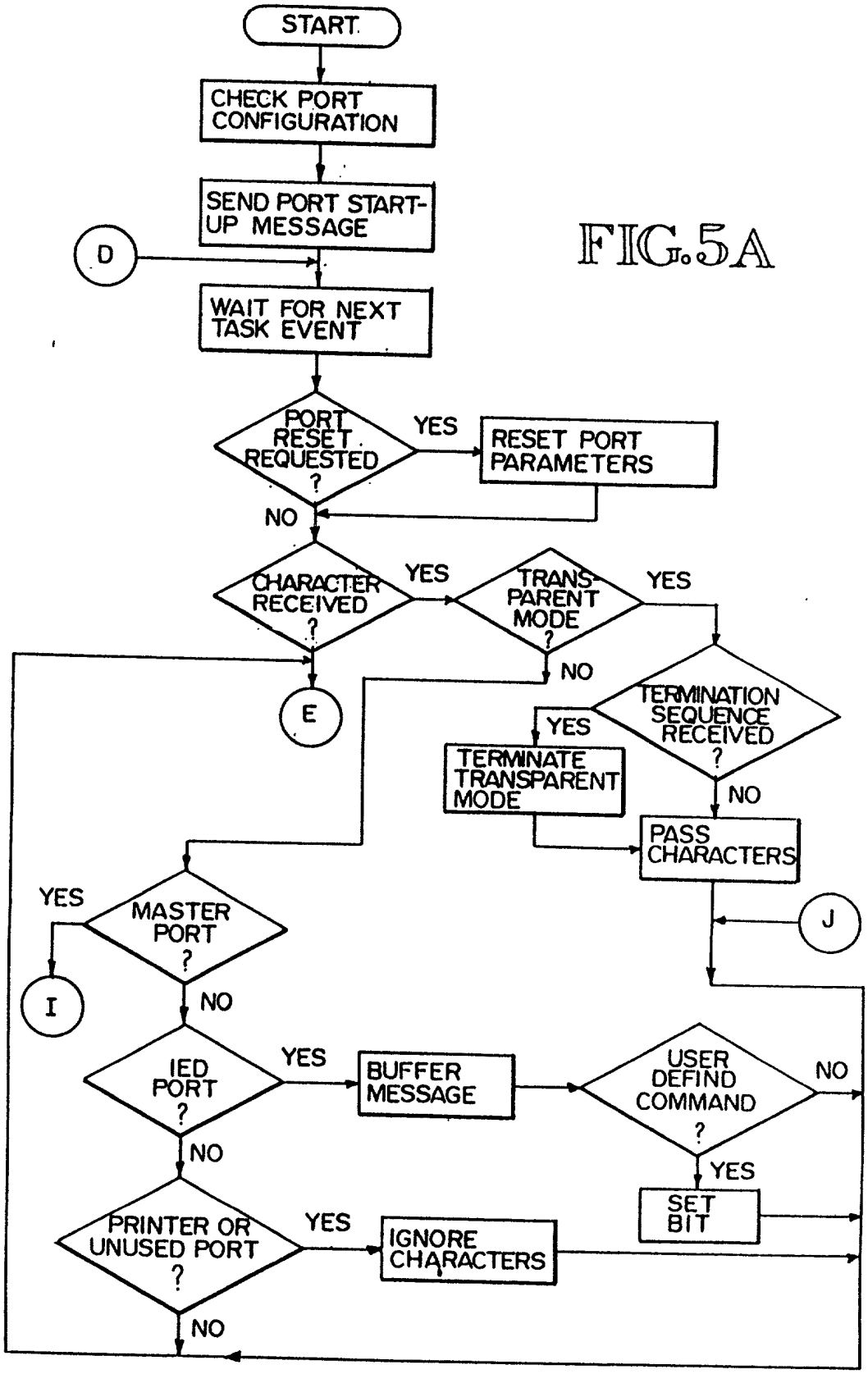
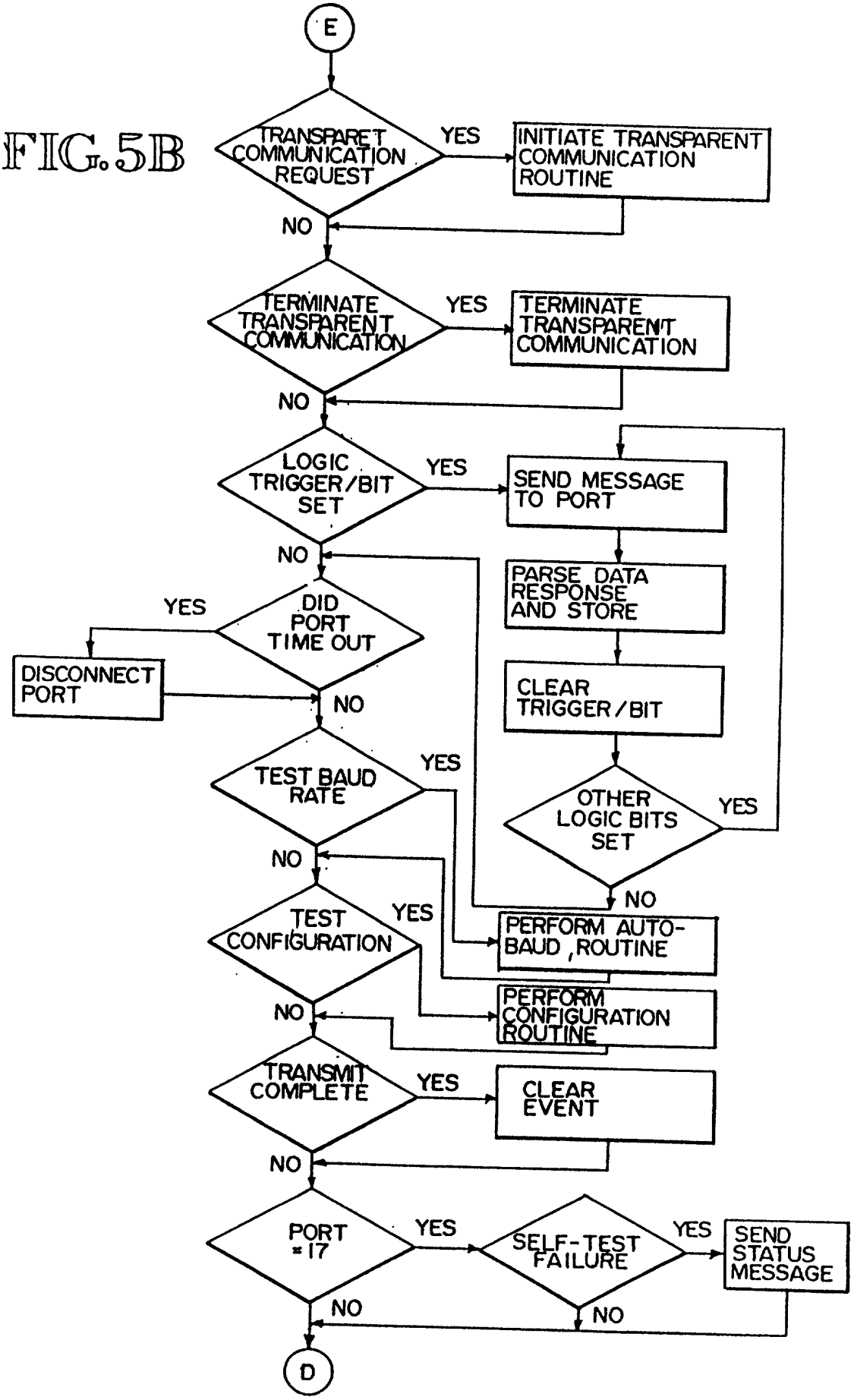

START
CHECK PORT CONFIGURATION
SEND PORT START-UP MESSAGE
D
WAIT FOR NEXT TASK EVENT
PORT RESET REQUESTED ?
YES
RESET PORT PARAMETERS
NO
CHARACTER RECEIVED ?
YES
TRANS-PARENT MODE ?
YES
NO
E
TERMINATION SEQUENCE RECEIVED ?
YES
TERMINATE TRANSPARENT MODE
NO
PASS CHARACTERS
J
YES
MASTER PORT ?
I
NO
IED PORT ?
YES
BUFFER MESSAGE
USER DEFIND COMMAND ?
NO
YES
SET BIT
NO
PRINTER OR UNUSED PORT ?
YES
IGNORE CHARACTERS
NO

FIG. 5A

FIG. 5B


E
TRANSPARET COMMUNICATION REQUEST
YES
INITIATE TRANSPARENT COMMUNICATION ROUTINE
NO
TERMINATE TRANSPARENT COMMUNICATION
YES
TERMINATE TRANSPARENT COMMUNICATION
NO
LOGIC TRIGGER/BIT SET
YES
SEND MESSAGE TO PORT
NO
PARSE DATA RESPONSE AND STORE
YES
DID PORT TIME OUT
DISCONNECT PORT
NO
CLEAR TRIGGER/BIT
TEST BAUD RATE
YES
OTHER LOGIC BITS SET
YES
NO
NO
TEST CONFIGURATION
YES
PERFORM AUTO-BAUD, ROUTINE
NO
PERFORM CONFIGURATION ROUTINE
TRANSMIT COMPLETE
YES
CLEAR EVENT
NO
PORT = 17
YES
SELF-TEST FAILURE
YES
SEND STATUS MESSAGE
NO
NO
D

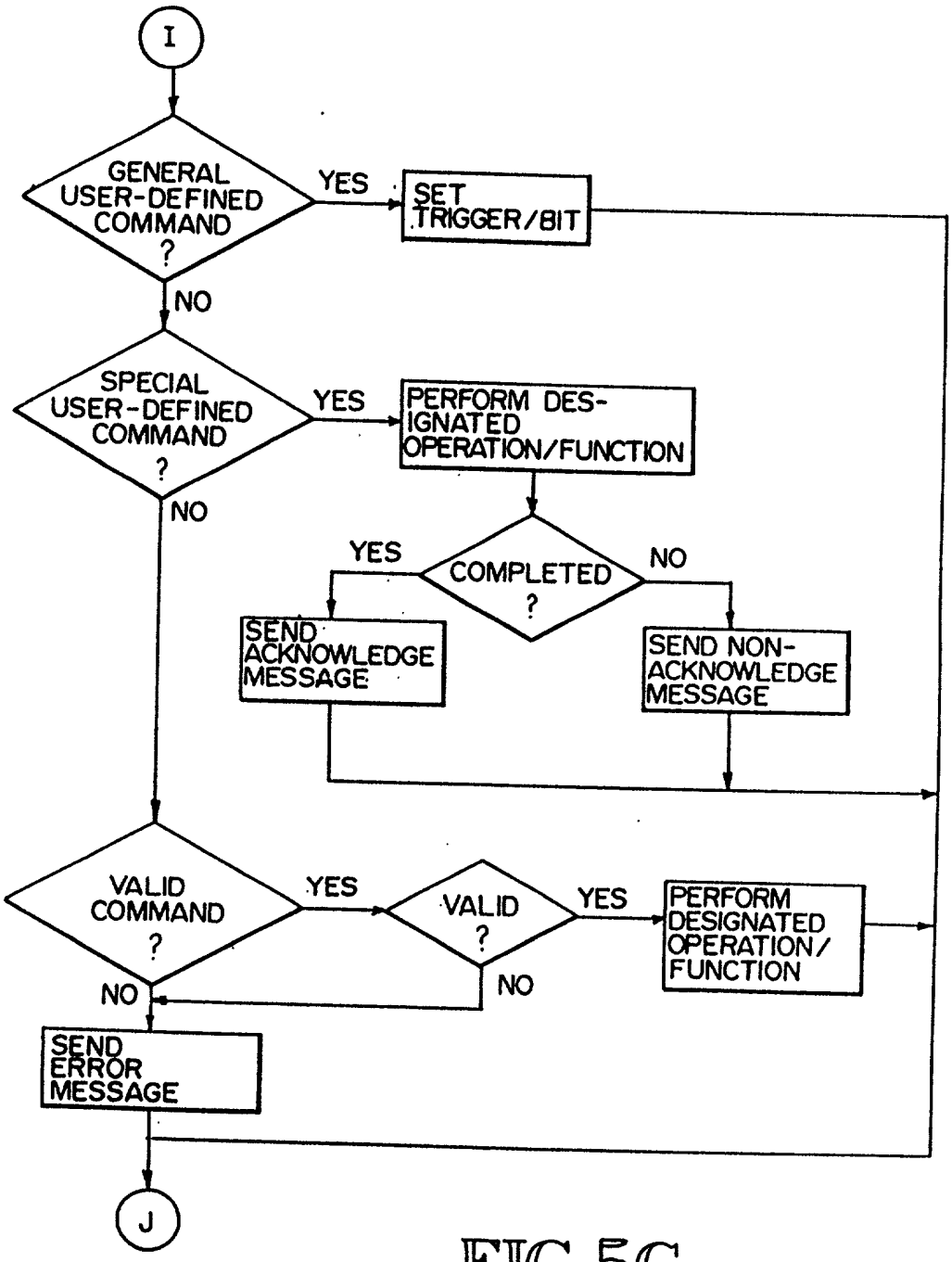

I
GENERAL USER-DEFINED COMMAND ?
YES
SET TRIGGER/BIT
NO
SPECIAL USER-DEFINED COMMAND ?
YES
PERFORM DESIGNATED OPERATION/FUNCTION
NO
YES
COMPLETED ?
NO
SEND ACKNOWLEDGE MESSAGE
SEND NON-ACKNOWLEDGE MESSAGE
VALID COMMAND ?
YES
VALID ?
YES
PERFORM DESIGNATED OPERATION/ FUNCTION
NO
NO
SEND ERROR MESSAGE
J

FIG.5C

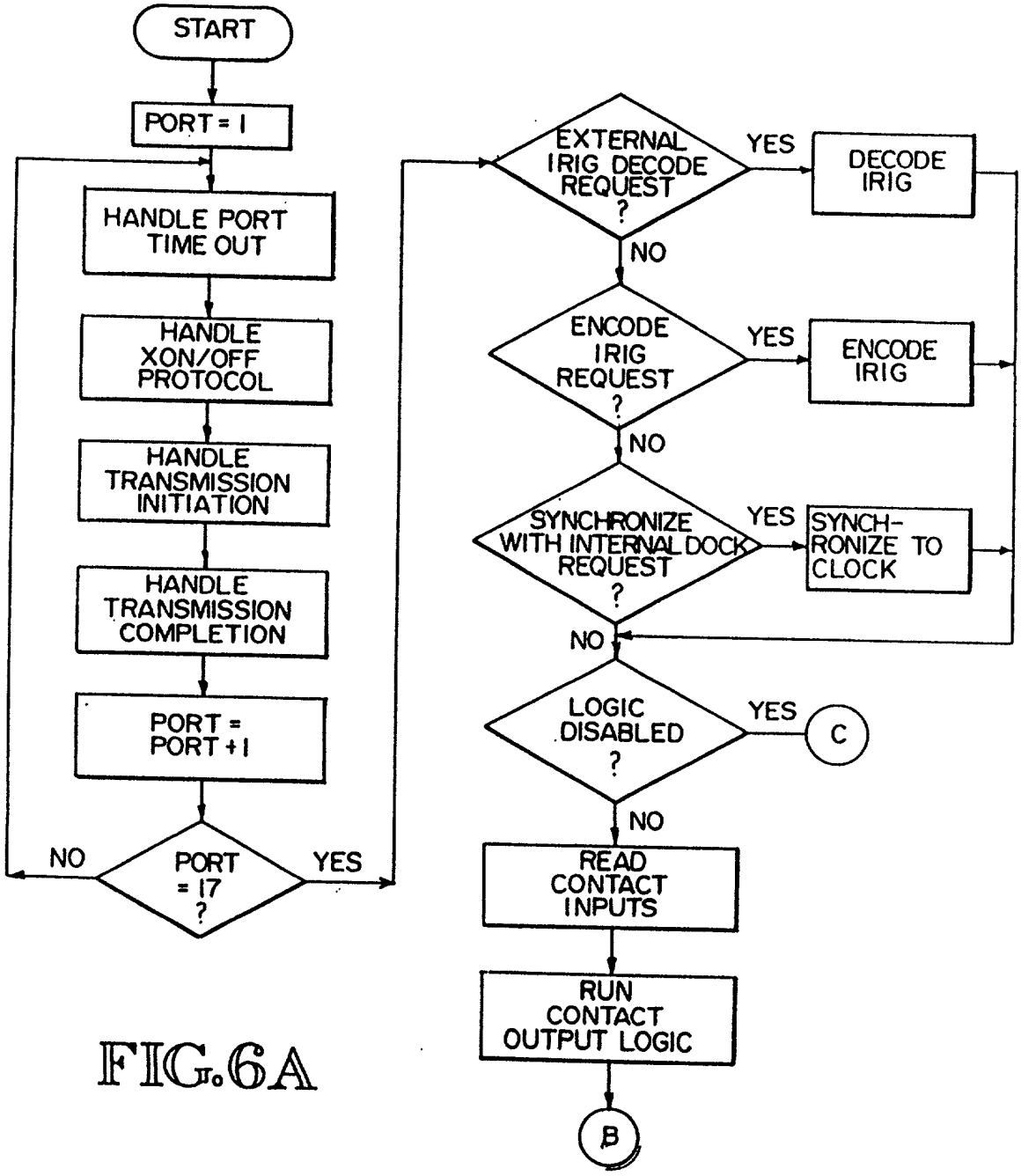

START
PORT = 1
HANDLE PORT TIME OUT
HANDLE XON/OFF PROTOCOL
HANDLE TRANSMISSION INITIATION
HANDLE TRANSMISSION COMPLETION
PORT = PORT + 1
PORT = 17 ?
NO
YES
EXTERNAL IRIG DECODE REQUEST ?
YES
DECODE IRIG
NO
ENCODE IRIG REQUEST ?
YES
ENCODE IRIG
NO
SYNCHRONIZE WITH INTERNAL DOCK REQUEST ?
YES
SYNCH-RONIZE TO CLOCK
NO
LOGIC DISABLED ?
YES
C
NO
READ CONTACT INPUTS
RUN CONTACT OUTPUT LOGIC
B

FIG. 6A

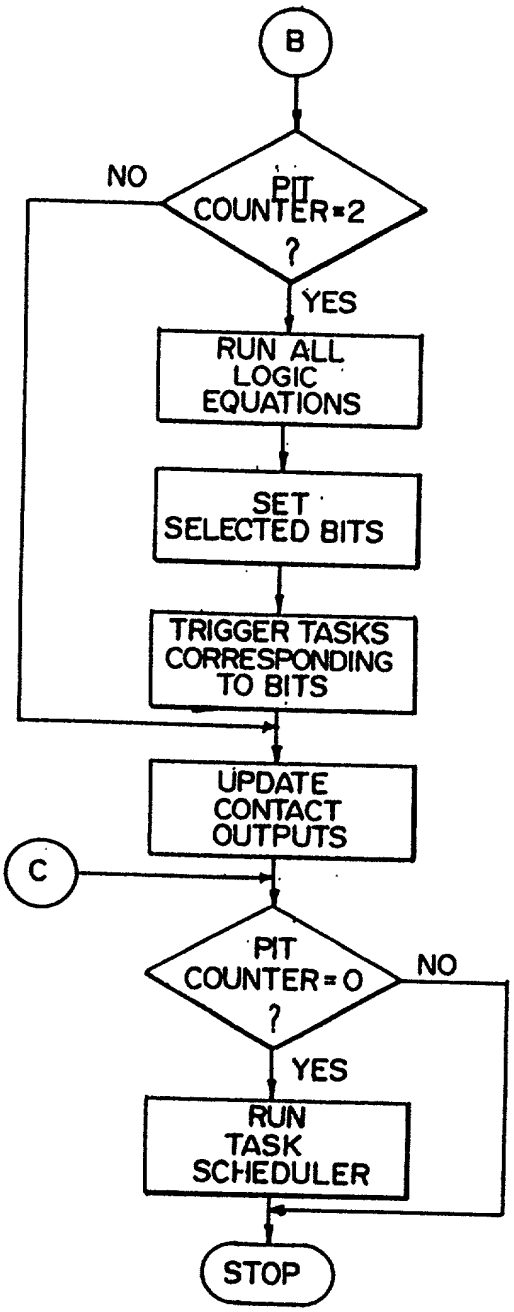

B
PIT COUNTER=2 ?
NO
YES
RUN ALL LOGIC EQUATIONS
SET SELECTED BITS
TRIGGER TASKS CORRESPONDING TO BITS
UPDATE CONTACT OUTPUTS
C
PIT COUNTER=0 ?
NO
YES
RUN TASK SCHEDULER
STOP

FIG.6B